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THE
EVOLUTION OF COMMERCE
ANNUAL ADDRESS BY THE PRESIDENT

HON GARDINER G. HUBBARD



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THE EVOLUTION OF COMMERCE.

ANNUAL ADDRESS BY THE PRESIDENT,

HON. GARDINER G. HUBBARD.

(Presented to the Society January 15, 1892.)

For over three thousand years the great highway for commerce has been from India by the Persian gulf and the Euphrates or by the Red sea to the Mediterranean, and thence through the Mediterranean by Gibraltar to western and northern Europe, and in our day thence to America.

Along this route cities and nations have sprung up, increased in wealth and power, and passed away, giving place to other cities and nations further westward. These nations have been great carriers and distributors of minerals and goods, as well as capitalists and bankers, or carriers, bankers and manufacturers; in either case controlling the commerce of the world. This control has never for any long period been held by the same race, but has passed from one nation to another, always from the east toward the west.

The earliest highway of commerce was from India through the Persian gulf, up the Euphrates to the Mediterranean; and carpets and precious stones were then as now carried over this route. Explorations and surveys for a railroad have been recently made along this "our future highway to India." Caravans brought spices from Arabia and rich stuffs from Babylon and Nineveh to

the shore of the Red sea. Solomon made a navy of ships and Hiram sent in the navy his "Servants, shipmen that had knowledge of the sea, and they brought gold from Ophir, great plenty of alung trees, and precious stones."

Tyre and Sidon founded colonies on the shores of the Mediterranean, enslaving the Spaniards and compelling them to work the mines of gold and silver already opened in Spain. Their ships sailed through the Mediterranean, by the Pillars of Hercules, into the Atlantic ocean, turning northward to England for tin and copper and on into the Baltic sea for furs and amber, turning southward along the western coast of Africa, passing certainly two thousand miles to the equator and probably rounding the cape of Good Hope into the Indian ocean. Products from the west were brought in ships to Tyre and Sidon and exchanged for the goods of the east, their merchants making profits on each transaction both as merchants and as carriers. Tyre and Sidon became wealthy, luxurious, and effeminate. Some of their citizens saw in Africa a richer soil and a better situation for a large city, and founded Carthage. The Carthaginians inherited the trade of Tyre and Sidon, and in addition opened highways to Egypt and into the interior of Africa, bartering their wares in Egypt for corn and grain and in Africa for ivory, gems and slaves. They planted colonies in Africa and Sicily, and for a time were successful rivals of Greece and Rome.

The rule of the ocean transferred from Asia to Africa remained there but a short time, for the day of Europe came with the rise of Greece and Rome.

The Greeks founded colonies in Asia Minor, Sicily, and Italy. The ruins of great cities with Grecian trophies and amphitheatres are found at Girgenti and Syracuse in Sicily, at Paestum and other places in Italy. Under Pyrrhus, their armies were defeated by the Romans and her colonies captured. Deprived of these, her power rapidly declined and she became a Roman province.

Rome.

Rome founded few colonies, but she conquered the nations of Asia, Africa, and Europe, and brought under her sway cities, kingdoms and empires. She boasted of five hundred cities in her Asiatic provinces that had been founded or enlarged and beautified by the Cæsars. One hundred and twenty vessels each

year brought the goods of India from the delta of the Ganges, and large fleets from Egypt came laden with corn and grain. She imported from every country, but exported little, paying for her imports by taxes levied on her colonists.

A. D. 280. Rome was the first power to incorporate conquered states into her dominion and extend citizenship to all the people in her empire; so that Paul could say in truth, "I am a Roman citizen and to Caesar I appeal." So salutary and beneficial was her rule that under it these countries prospered more than under their own rulers. What Rome seized with strong hand she defended, and in return for taxation gave protection. She has no more enduring monument than her roads, the remains of which are now found in every country of Europe. Though built as military and post-roads, they were used largely for commerce. All started from the golden mile-stone in the forum; one ran over the Brenner pass northeastward to the Baltic sea, another followed the northwestern coast of the Mediterranean to Spain and southern France, another crossed the Alps and extended through France to the British channel and through England to Scotland, where the Romans built a wall, ruins of which now bear witness to its strength. Another way went southward to Naples and Brindisi, and another led eastward to Macedonia and Greece. As these were the only roads in all these countries, it was truly said, "All ways lead to Rome;" and over them the messengers of Caesar travelled more rapidly than the mail-carrier of our fathers on our mail routes.

Peace and Growth.

After two hundred years of empire Rome fell, and the dark ages followed. From A. D. 400 to A. D. 800 commerce and trade died out. The only vessels on the Mediterranean and Baltic were piratical crafts; Jerusalem and the Holy Land were captured by the Turks; the Crusades began, forerunners of a higher civilization and more extended commerce. Thousands and tens of thousands of people from all parts of Europe and all ranks of life, bearing the pilgrim's badge—the blood-red cross,—journeyed toward the Holy Land, first in vast crowds led by 1096–1291. Peter the Hermit, then in great armies led by kings and generals. For two hundred years this movement continued. Venice and Genoa furnished ships to carry the

armies of France from Italy to the Holy Land. The Venetians were shrewd merchants and drove hard bargains, stipulating for portions of land at the best commercial points and adequate compensation for their services. After the failure of each Crusade they brought back remnants of the troops and pilgrims, and with them the products of Asia Minor, and books and art treasures from Greece. These were distributed all over Italy, and led to the renaissance of the thirteenth and fourteenth centuries.

The trade with the east brought power and wealth to Venice and Genoa. They founded colonies on the Black sea, in Asia Minor, and on the Asiatic coast. Venice alone had three thousand merchant vessels. Their commerce was not confined to the borders of the Mediterranean, for the goods of the Orient were distributed by the way of Augsburg and Nuremberg to the interior of Germany and to the towns of the Hanseatic confederation. Thus commerce was opened with the interior of Europe.

By the failure of the Crusades the power of the Turks, 1450 which had been for the time checked, grew and increased.

They conquered the holy places of the earth, Asia Minor and Syria, and finally, crossing into Europe, gained Constantinople. The colonies of Venice and Genoa were captured; their fleets disappeared from the Mediterranean. In western Europe the Spaniards under Ferdinand and Isabella conquered the Moors, who for many ages had occupied the larger portion of Spain; and as the Crescent appeared in eastern Europe, the Cross triumphed in the west.

Spain and Portugal.

Then a new power appeared upon the stage. Spain and Portugal entered upon an era of exploration and discovery in regions unknown to Venice and Genoa. Commerce, which in the middle ages had been confined to the Mediterranean sea, was now extended to the countries on the Atlantic ocean, and the Cape Verde Islands, Madeira, and the Canaries were discovered. In one generation (between 1470 and 1500 A. D.) more and greater discoveries were made than in any other period of the world's history. The Portuguese sailed along the eastern coast of Africa and rounded the cape of Good Hope; Vasco de Gama crossed the Indian ocean to India; Columbus sailed westward to find the Indian ocean to India; Columbus sailed westward to find the Orient, and discovered a New World; Magellan circumnavigated

gated the globe: Ballen crossed the isthmus of Panama and was the first to see, on the same day, the sun rise out of the Atlantic and set in the Pacific; and soon the eastern and western coasts of America were explored from Newfoundland to cape Horn and from cape Horn to Panama.

Both Portugal and Spain claimed all the new world, and as they could not agree upon a division of territory they referred the matter to the pope, who divided the new world between them. The Atlantic became the great highway for commerce, while the Mediterranean was deserted, and Venice and Genoa existed only in the past.

The commerce of Portugal was coextensive with her dominion, which extended from Japan and the Spice islands and India to the Red sea, thence to the cape of Good Hope; and with their possessions on the eastern and western shores of the Atlantic and in Africa and Brazil completed their maritime empire, the most extensive the world has ever seen. Then a single fleet of one hundred and fifty to two hundred and fifty caracks sailed from the port of Goa to Lisbon; now there sails but one vessel a year from all India.

From Spain ships sailed both to the Caribbean sea and to cape Horn and thence to Chile and Peru, or directly northwestward from cape Horn to the Philippine islands. Spain conquered Mexico, Central America, and all South America except Brazil. The gold and silver of Peru and Chile and the goods of the Orient were brought to Spain and Portugal. As their wealth and power increased the spirit of exploration decreased, and for nearly two hundred years the Spanish ships sailed in a fixed course by the same lanes, exploring the ocean neither toward the north nor the south, leaving undiscovered the great continent of Australia and numerous groups of islands.

The Spanish and Portuguese leaders were cavaliers who despised all commerce excepting in gold and silver, all kinds of manufactures, all manual labor, and the cultivation of the ground; they came not to colonize, but to satisfy by the labor of the enslaved aborigines their thirst for gold and silver. The whole political power was retained by the king of Spain and administered by Spaniards. While the silver and gold of America and the wealth of the Indies poured into the treasuries of Spain they wanted nothing more. Like ancient Rome, they took all the wealth of the conquered countries, making no return; but

they did not, like Rome, give wise and equitable laws and a stable government to the countries they conquered.

The Netherlands.

The inhabitants of the Netherlands were manufacturers, and supplied the markets of Spain and Portugal and their colonies, thus reaping as large profits from their trade with these countries as the Spanish and Portuguese from the mines of gold and silver.

No part of Europe, says Motley, seemed so unlikely to become the home of a great nation as the low country on the north-western coast of the continent, where the great rivers, the Rhine and Scheldt, emptied into the North sea, and where it was hard to tell whether it was land or water. In this region, outcast of ocean and earth, a little nation wrested from back domains their richest treasures.

The commerce of the Hanseatic towns, which had depended for their trade on Venice and Genoa, became less and less as the glory of those cities waned. Antwerp, with its deep and convenient rivers, stretched its arms to the ocean and caught the golden harvest as it fell from its sisters' grasp. No city, except Paris, surpassed it in population, none approached it in splendor. It became the commercial center and banker of Europe; five thousand merchants daily assembled on its exchange; twenty-five hundred vessels were often seen at once in its harbor, and five hundred daily made their entrance into it. The manufactures of Flanders and the Netherlands had been noted for many generations, and now vastly increased and were distributed all over the world. The Netherlands, though the smallest, became the wealthiest nation of Europe. Then came the long-continued war with Spain, ending in the siege and fall of Antwerp and in the imposition of such taxation as no other country had ever endured. As Antwerp had grown on the ruins of the Hanseatic towns, so her fall became England's gain.

France and England.

In America, north of Mexico, neither silver nor gold had been found to tempt the Spanish and Portuguese. The larger portion of the northern Atlantic coast was one long sand beach, broken by great estuaries and the mouths of great rivers; the rest was

rocky and rugged, the temperature generally cold, the land infertile and barren. For these reasons North America was left to the French and English. The French claimed Canada and the whole of the territory of the United States save a narrow strip of land on the Atlantic coast. The French population was small and was made up principally of fur traders and half-breeds; Great Britain held New England, Virginia and the Carolinas.

After the first fever of religious colonisation had passed, about the commencement of the eighteenth century, there was scarcely any emigration from England to America and but little trade between the two countries. The population of North America was small, its commerce less, with little profit to the European merchants. The country possessed no peculiar advantages for the production of articles of value in foreign markets; there was nothing, therefore, to invite immigration or commerce.

The chief inducement to the English to navigate the Atlantic was the hope of capturing the treasure-laden Spanish galleons and the rich Spanish cities.

Sir Francis Drake, Sir Walter Raleigh, and other navigators, aided by Queen Elizabeth, with bands of adventurers, refugees from all countries though mostly Englishmen, explored the recesses of the Caribbean sea, crossed the isthmus of Panama, and launched their little vessels on the Pacific. In fifteen years they captured five hundred and forty-five treasure ships, sacked many towns, trained the English seamen, and laid the foundation for the navy of Great Britain.

The growth of English commerce was slower than that of Spain, Portugal or Holland, and it was not until the middle of the eighteenth century, or two hundred and fifty years after the discovery of America, that she entered upon that career which gave her the control of the ocean. Her commerce was built up by protective laws, founded on the Navigation Act of 1651, which prohibited foreign vessels from carrying to or from England the commerce of any country but its own. These laws were universally regarded as among the chief causes and most important bulwarks of the prosperity of Great Britain, and they were continued until English ships controlled the carrying trade of the world, and were not finally repealed until 1854.

The mechanical devices of Watt, Arkwright, and other great inventors gave to England that supremacy in manufactures which she has ever since retained. The French revolution a

little later aroused the fear of the statesmen, merchants, and capitalists of England that the energy of the new republic would be as omnipotent in mercantile affairs as on the field of battle. They believed that France might regain the colonies and with them the commerce she had lost, and therefore England declared war against Napoleon, which was carried on almost continuously from 1793 to 1815. The shipping of the continent disappeared or was captured by the fleets of England, the colonies, and with them the commerce of Spain and Portugal, Holland and France, passed to England; and though she is still burdened with the debt then created, she has never lost the commerce and carrying trade she then obtained.

The population of the colonies of Great Britain is about one-sixth of the entire population of the globe; and their territory comprises eighty per cent of the available temperate regions of the earth belonging to the Anglo-Saxon race.

The commerce of England has given wealth to her bankers and merchants, and employment to her artisans, ship-builders, iron-workers, miners and manufacturers. Her exports of produce and manufactures have increased five hundred per cent in fifty years, or from \$350,000,000 in 1840 to \$1,577,000,000 in 1890, and are carried by her ships to every quarter of the globe. Though dependent on America for her food supplies, these are moved in British ships. The commerce of the world pays tribute to the bankers of London and makes that city the money center of the world. Her best market is India, and from India comes her largest imports; next to these from the United States.

India.

Egypt, Nineveh and Babylon in prehistoric times, Tyre and Sidon and Greece under Alexander, Carthage and Rome under the Caesars, Venice and Genoa in the middle ages, Portugal and Holland, and lastly England, have drawn great stores of wealth from India.

From India science and literature were handed on to Europe, and from India has come the religion of more than half of the human race. For India the Spanish sailed westward; for India the Portuguese sailed eastward; Portugal was the first to reach the goal and obtain the prize. Greater riches have been drawn from India than from the gold and silver mines of America, since

new workshops for their tin and silver ores, are placed by the French in colonial China, Germany on the east and western coasts of Africa, the Russians in the Pacific—Portugal, however, has a few colonies scattered to India, China, and the Pacific. In Africa, Russia is steadily pushing her colonies into Asia, and her railway from the Caspian sea to Samarcand has opened in western and a part of central Asia a market for her manufactures and a source of raw materials for her manufactures.

1. *How many people are there in your family?*

The United States is the only nation that has become great without colonies and without foreign possessions or shipping. Its vast extent of territory, when the east and west, the north and south, are separated, is revealed by the parallel lines of Type and Section of vegetation and climate from the Atlantic to the Pacific. Vastly different the forest and the varied occupations and industries, and a widely distributed population, have created an enormous market for our goods, given that time is a commodity which, otherwise, serves for barter, export and exchange with foreign lands. Our population, working a fertile soil, producing exports and imports, have increased at a more rapid rate than other nations in a similar period. This is due to

we agree to agree on a negotiation, for our negotiation is intended to be greater not a series of smaller negotiations as occurred between the experts before it. It did work. I have seen as large and non-homogeneous a body of management. We found out there a large body of consensus on what ought to be the time to establish a unit in the world. I am not, at least, I hope, the first and only one who were seen fighting over a very second the day in every factory, and for years we were the second largest in the world.

The output of the world's oil fields was about 200 million barrels a day, or 100 million tons, in 1960. By 1970, the world's oil production had increased to 250 million barrels a day, or 125 million tons. The world's oil production was about 200 million barrels a day, or 100 million tons, in 1960. By 1970, the world's oil production had increased to 250 million barrels a day, or 125 million tons.

Reagan's 1981 election put a very small part of these experts and a little more out of the thought of going on to give to the government what have been established as very large part of the world, and the process was usually continued on the other hand.

For example, our flag cover I separates from our inland waters and from our coasting trade, for the goods are exported from the coasting trade even when the ports are closed. These vessels are not only used:

[illegible]

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[illegible]

A water line is 1000 to 1500 miles, yet, not a strand of the line is a distance (roughly) as our shuttle went by water from San Francisco to it is about the same distance by water to get to New York or to London. If you want money saved, be content to cross the Atlantic by flying a good one once, be located on the Atlantic coast in New York and San Francisco would be as much as any by boat.

¹ For example, in the case of a 1000 m² plot, the maximum number of plots that can be sampled is 1000/100 = 10. In this case, the maximum number of plots that can be sampled is 1000/100 = 10. In this case, the maximum number of plots that can be sampled is 1000/100 = 10.

in 1811, at a cost of \$1,000,000, was the first canal in the United States. The first proposition for a canal in the United States was made in 1791, suggesting a canal from New York to the Ohio River. The first canal in the United States was the Erie Canal, which was completed in 1825. It was the first canal to be built in the United States, and it was the first canal to be built in the United States.

The success of the Erie Canal inspired other states to build canals. The first canal in the United States was the Erie Canal, which was completed in 1825. It was the first canal to be built in the United States, and it was the first canal to be built in the United States.

Several hundred miles of the Erie Canal is the longest canal in the world. It is 146 miles long, and it is the longest canal in the world. It is the longest canal in the world, and it is the longest canal in the world.

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York and San Francisco averages from forty to eighty days per foot according to the class in which the freight belongs. It takes from seven to ten days to go from New York to Liverpool twice as long from New York to San Francisco by rail, thirty days by Panama and one hundred and twenty days by the over-water route around Cape Horn.

The opening of this canal will therefore remove the freight charges between the east and west at about a one-fourth and possibly more. It will give us a free, easy and cheap communication by water between the eastern and west coasts, and, over a shorter route, with a canal to the west coast countries of the Atlantic coast and the population of the states on the Pacific coast will be increased in a wonderful manner.

The opening of this route will give a market for large steamships, and when we have steamships large enough to run independently we will spring up and these ships are wanted to enable us to build and run routes on the Atlantic coast from port to port to Great Britain. When the project of Mr. Canning will be fulfilled that Englishmen will be seeking employment, not as we build ships as economically as they do on the United States.

History of Commerce

The earliest transportation of merchandise was by caravans. The first caravan of which we have any certain record was that of the Ishmaelites and Midianites who, while they were traveling from Babylon to our Canada, bearing spices, balm and ivory to Egypt. In Egypt Joseph of the patriarch and sold himself as a slave to Pharaoh. These caravans were formed of merchants and of camels, asses or for pack animals, for a guide and leader some of them were carrying several hundred with one hundred and fifty camels. They traveled from seventy to two hundred days, at only one or two spring and autumn months. Among the caravan companies were the caravan of King was directed to and headed by Turk and Arab all the way to the coast of the Red Sea, it carried to the port of the Red Sea, the coast by Merv and the Oxus to Samarkand.

Navigation was first by boat and a few sail boats were used in the early centuries of which we have any record, but soon after the invention of the sailing ship and the steamship, the sailing ship was gradually supplanted by the steamship, and the sailing ship was at first small, with a few masts,

1. *Cost of Production*, collected by records maintained and used by the
 Bureau of Production Methods, covering costs incurred in the production
 of a commodity, or a unit thereof, from the time of purchase of the material

[illegible]

⁴ For the purpose of this research, the definition of the survey for a nation is used.

[illegible][illegible]

In Example 1 at $\lambda = 0.01$, the convergence of the algorithm is shown in Figure 1. The algorithm converges to the optimal solution in 10 iterations.

For the case of the homogeneous problem $\mathbf{f} = \mathbf{0}$, it is well known that the solution $\mathbf{u}(\mathbf{x})$ is unique if the corresponding boundary value problem is well-posed. However, the corresponding boundary value problem is ill-posed if $\mathbf{f} \neq \mathbf{0}$. In this case, the solution $\mathbf{u}(\mathbf{x})$ is not unique and the problem is ill-posed. The problem is ill-posed if the solution $\mathbf{u}(\mathbf{x})$ is not unique and the problem is ill-posed.

$\frac{1}{2} + \epsilon$ (where ϵ is fixed) and $\frac{1}{2} - \epsilon$ (where ϵ is fixed) is possible. The lower bound is tight for $\epsilon = 0$.

the system has been identified as a local maximum of the

Figure 1. A 4.45-MHz ^1H NMR spectrum of the poly(2-vinylpyridine) (PVP) in CDCl_3 at 300 K. The chemical shift is in ppm, and the integration curve is shown at the bottom of the spectrum.

velocity of twenty-five miles a day is now moved five hundred miles a day by water and a great hundred miles by land. Correspondence, then carried out faster than freight, is now today by telegraph to the furthest ends of our world.

All these changes have taken place within a single generation. At present one could not travel any faster than Alexander or Caesar. Steamships, railroads and telegraphs within a lifetime have transformed all commercial transactions and the mechanism of modern business. Formerly eight months were required to execute an order from London to China and obtain the return, now one day is sufficient. These commercial changes caused a revolution in the modes of business, and were to some extent responsible for the monetary disturbances of 1873, the effects of which we yet feel, so long has it taken the world to adjust itself to its new relations.

The Future of Commerce.

The commerce of the world originated in Asia; it was carried to Africa and thence to Europe, and from Europe to America. This movement can go no farther westward for on the other side of the Pacific is China, which has successfully resisted every attempt of the European to encroach upon her domains, and India with its teeming population of two hundred and fifty millions so that America, the last of the continents to be inhabited, now receives the wealth of India and Asia, pouring it to it from the west, and the manufactures and population of Europe from the east. Here the east and west, direct from each other in a total power and mutual satisfaction, each alone accomplishing what essential to the full development of civilization is the need of the other. Here will be the great banking and commercial houses of the world, the center of business, wealth and population.

The end is not yet. Inventions are making us a power electric rather than an arithmetic progression. The limit of steam power has not been reached, for with a slight increase of the steam and a the addition of a few pounds of coal increases the steam power so greatly that we are unable either to control or to use it.

Electricity has just begun to offer new opportunities to commerce. We are no longer compelled to carry our factories to the

¹—See also Chap. IV, p. 122.

water power, for by the cable wire the power may be brought to the house of the operative, and we may again see the private workman as beside the factory operative. A few cars and small vessels are moved by electricity—the forerunner of greater things. We know little of this new age yet, but its future growth must be more rapid, and more useful than that of steam.

The secretary of the Standard Oil Association (Mr. Langley) told me that "before the beginning of the twentieth century, annual aviation would be an established fact."

"The deeper the insight we obtain into the mysterious workings of nature's forces," says Siemens, "the more we are convinced that we are still standing in the vestibule of science; that an unexplored world still lies before us, and however much we may discover, we know not whether mankind will ever arrive at a full knowledge of nature."

